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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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PATTON BOGGS  
1660 LINCOLN ST  
SUITE 2050  
DENVER, CO 80264

EXAMINER

DOAN, KIET M

ART UNIT PAPER NUMBER

2683

DATE MAILED: 11/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/730,329

Applicant(s)

MCKENNA ET AL.

Examiner

Kiet Doan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 January 1978.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-78 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-78 is/are rejected.  
7) ☒ Claim(s) 11, 24, 37, 46, 50, 52, 58, 62, 65, 66, 70, 74, 76 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

This office action is response to amendment file on 08/18/2005.

Claims 1, 8, 10-11, 14, 23, 27, 34, 36-37 are amended.

Claims 40-78 are added. This office action is made FINAL.

### ***Allowable Subject Matter***

**Claims 11, 24, 37, 46, 50, 52, 58, 62, 65, 66, 70, 74, 76** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The examiner thanks the applicant's for rewritten claims 40-42 in independent form including all of the limitations of the base claim and any intervening claims. Therefore claims 40-42 is allowed.

### ***Response to Arguments***

Applicant's arguments and amended with respect to claims 1, 14 and 27 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1, 14-16, 27-29** are rejected under 35 U.S.C. 103(a) as being unpatentable over Rousseu et al. (Patent No. 6,889,042) in view of Diekelman (Patent No. 5,590,395).

Consider **claims 1, 14 and 27**, Rousseu teaches a system for providing wireless communication services to a plurality of wireless subscriber devices that are located in an aircraft (Fig.1, No.TL1, TL2, Illustrate as plurality of wireless subscriber devices that are located in an aircraft) comprising:

aircraft network means located in said aircraft for generating radio frequency communication signals to communicate with at least one of said plurality of wireless subscriber devices that are located in said aircraft (Fig.1, BSS1, AV2 means as RF communicate with at least one of said plurality of wireless subscriber devices No.TL1, TL2);

air-to-ground network means for radio frequency communications between said aircraft and a ground-based communications network having at least one transceiver located on the ground (Fig.1, Illustrate No.AN1 as frequency communications between said aircraft and a ground-based communications network No.R1). Rousseu teaches the limitation of claim discuss **but fail to teach** and

aircraft interface means for interconnecting said aircraft network means and said air-to-ground network means to establish communications between said plurality of wireless subscriber devices and said ground-based communications network by exchanging both subscriber traffic and at least one of network signaling and

administrative data on separate concurrently available logical channels between said aircraft network means and said ground-base communications network.

In an analogous art, Diekelman teaches "Satellite cellular network resource management method and apparatus". Further, Diekelman teaches and

aircraft interface means for interconnecting said aircraft network means and said air-to-ground network means to establish communications between said plurality of wireless subscriber devices and said ground-based communications network by exchanging both subscriber traffic and at least one of network signaling and administrative data on separate concurrently available logical channels between said aircraft network means and said ground-base communications network (C1, L59-67, C2, L1-10, L49-67, C3, L1-27, Fig.2, Illustrate exchanging both subscriber traffic on separate concurrently available logical channels).

Therefore, it would have been obvious at the time that the invention was made that person having ordinary skill in the art to modify Rousseu and Diekelman system, such that plurality of wireless subscriber devices that are located in an aircraft and exchanging traffic in separate concurrently available logical channels between said aircraft network means and said ground-base communications network to provide means for avoid interfering.

Consider **claims 2, 15, 28**, Rousseu teaches the system for providing wireless communication services wherein said aircraft network means comprises: aircraft cellular communication means for establishing at least one cell site to communicate via

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communications with at least one of said plurality of wireless subscriber devices (C3, L50-54, Fig.1, No.AN2, illustrate as cell site/base station which communicate via communications with at least one of said plurality of wireless subscriber devices T11, T12).

Consider **claims 3, 16 and 29**, Rousseu teaches the system for providing wireless communication services wherein said aircraft network means comprises:

At least one base station means, each of which establishes a cell site to communications with at least one of said plurality of wireless subscriber devices (C3, L15-19, Fig.1, No.BSS1 as base station wherein communication with wireless subscriber devices No. TL1/TL2).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**2. Claims 4-10, 12, 17-23, 25, 30-36, 38, 51, 61, 75** are rejected under 35 U.S.C. 103(a) as being unpatentable over Rousseu et al. (Patent No. 6,889,042) in view of Diekelman (Patent No. 5,590,395) and further view of Zicker (Patent No. 6,314,286).

Consider **claims 4-5, 17-18 and 30-31**, Rousseu and Diekelman teaches the limitation of claim as discuss above **but fail to teach** the system for providing wireless

communication services wherein said aircraft interface means comprises: authentication means for verifying the identity of said plurality of wireless subscriber devices.

In an analogous art, Zicker teaches "Control of telecommunications services for subscriber-provided radio communication devices residing in a miniature cellular environment". Further, Zicker teaches the system for providing wireless communication services wherein said aircraft interface means comprises: authentication means for verifying the identity of said plurality of wireless subscriber devices (C4, L50-58, C12, L8-28).

Therefore, it would have been obvious at the time that the invention was made that person having ordinary skill in the art to modify McKenna and Zicker system, such that authentication/verifying the identity of said plurality of wireless subscriber devices, to provide means for the system can bill to the users when subscriber are verify/authorize.

Consider **claims 6, 19 and 32**, Zicker teaches the system for providing wireless communication services of claim 3 wherein said air-to-ground network means comprises: wireless subscriber device means, connected to said at least one base station means and responsive to receipt of radio frequency communication signals from a one of said plurality of wireless subscriber devices, for emulating operation of said one wireless subscriber device in communicating with said ground-based communications system (C4, L58-67, C5, L1-35).

Consider **claims 7, 20 and 33**, Zicker teaches the system for providing wireless communication services of claim 3 wherein said air-to-ground network means comprises: transmitter means for generating downlink radio frequency signals for transmission to said at least one transceiver located on the ground; receiver means for receiving uplink radio frequency signals received from said at least one transceiver located on the ground; and antenna means located on an external surface of said aircraft for exchanging said downlink and uplink radio frequency signals between said transmitter and said receiver means and said at least one transceiver located on the ground (C4, L27-58, Fig.1, No.30, 34, 36 illustrate as transmit/received link air to ground).

Consider **claims 8, 21 and 34**, Zicker teaches the system for providing wireless communication services of claim 2 wherein said aircraft cellular communication means comprises: a plurality of base station means to communicate via communications with at least one of said plurality of wireless subscriber devices, at least of said plurality of base station means operating in a cellular technology that differs from those of the remaining ones of said plurality of base station means (C4, L58-67, C5, L1-15, Fig.2, illustrate plurality of base station as No.40 and wireless subscriber devices as No.50).

Consider **claims 9, 22, 35, 49, 51, 61, 63-64, 73, 75**, Zicker teaches the system for providing wireless communication services of claim 8 wherein said aircraft interface means comprises: data concentrator means for converting the individual traffic and



signaling channels received from said plurality of base station means to an aggregate data stream (C5, L39-49, C7, L37-56).

Consider **claims 10, 23 and 36**, Zicker teaches the system for providing wireless communication services of claim 9 wherein said air-to-ground network means comprises: ground station controller means for mobility management and hand over management for said aggregate data stream comprising subscriber traffic from plurality of wireless subscriber devices (C6, L54-64, Fig.2, No.44, Illustrate controller which management for said plurality of wireless subscriber devices).

Consider **claim 12, 25 and 38**, Zicker teaches the system for providing wireless communication services of claim 9 wherein said air-to-ground network means further comprises: a plurality of mobile switching system means for interconnecting said communications from at least one of said plurality of wireless subscriber devices with conventional Voice and Data switching systems (C9, L54-64).

**3. Claims 13, 43-45, 47, 26, 39, 55-57, 59-60, 67-69, 71-72** are rejected under 35 U.S.C. 103(a) as being unpatentable over Rousseu et al. (Patent No. 6,889,042) in view of Zicker (Patent No. 6,314,286) and further view of Roux (Patent No. 6,754,489).

Consider **claims 13, 26 and 39**, Rousseu and Zicker teach the limitation of claims as discuss above **but fail to teach** the system for providing wireless communication services of claim 1 wherein said aircraft network means comprises:

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aircraft cellular communication means for establishing at least one wireless LAN-based cell site to communicate via data-based communications with at least one of said plurality of wireless subscriber devices.

In an analogous art, Roux teaches "Node and onboard station for setting up at any time a call involving a passenger on a vehicle". Further, Roux teaches the system for providing wireless communication services of claim 1 wherein said aircraft network means comprises: aircraft cellular communication means for establishing at least one wireless LAN-based cell site to communicate via data-based communications with at least one of said plurality of wireless subscriber devices (C3, L7-11, C5, L1-20).

Therefore, it would have been obvious at the time that the invention was made that person having ordinary skill in the art to modify Rousseu, Zicker and Roux system, such that aircraft cellular communication means for establishing at least one wireless LAN-based cell site to communicate via data-based communications with at least one of said plurality of wireless subscriber devices, to provide means for allow the users access internet collecting data while on board aircraft.

Consider **claims 43, 55 and 67**, Roux teaches the system for providing wireless communication service of claim 3 wherein said air-to-ground network means comprise: transmitter means for generating downlink radio frequency signals for transmission to said at least one transceiver located on the ground via at least one satellite; receiver means for receiving uplink radio frequency signals received from said at least one satellite (C3, L7-40, Fig.1, No.S1-S3 as transceiver link).

Consider **claims 44, 56, 68**, Roux teaches the system for providing wireless communication service of claim 1 wherein said air-to-ground network means comprise: radio frequency management means for managing at least one radio frequency attribute of said system for providing wireless communication services from the set of radio frequency attribute including: the in-cabin radio frequency environment which controls wireless subscriber device access to service; the EMI/RFI environment by commanding the wireless subscriber device to the lowest necessary radio frequency power, and a radio frequency scheme for signaling and traffic which does not cause interference to operations in the ground-base communication network (C2, L53-67).

Consider **claims 45, 57, 69**, Roux teaches the system for providing wireless communication service of claim 1 wherein said aircraft interface means comprise:

In-cabin termination means for providing a signaling termination for each call from a one of said wireless subscriber devices that are located in the aircraft to provide protocol management of signaling to both ground-base communications network and said wireless subscriber devices (C5, L10-20).

Consider **claims 47, 59, 71**, Roux teaches the system for providing wireless communication service of claim 45 wherein said in-cabin termination means comprises: spoofing means for spoofing the wireless subscriber devices by intelligently removing and replacing selected network signaling information in the protocol management (Abstract, C3, L17-65).

Consider **claims 48, 60, 72**, Roux teaches the system for providing wireless communication service of claim 45 wherein said aircraft interface means comprises: In –cabin call disabling means for disabling operation of selected ones of said wireless subscriber devices that are located in the aircraft (C1, L32-42).

4. **Claims 53-54, 77-78** are rejected under 35 U.S.C. 103(a) as being unpatentable over Rousseu et al. (Patent No. 6, 889,042) in view of Hogg et al. (Patent No.6, 430,421).

Consider **claims 53, 77**, Rousseu teaches the system for providing wireless communication service of claim 49 further comprising: wherein said aircraft interface means further comprises: call management means for maintaining call data relating to said wireless subscriber devices that are generating said subscriber traffic and signaling channels; herein air-to-ground network means further comprises (C3-C4, Fig.1, No.BTS1 means as call management and No. AN1 means as air-to-ground network). Rousseu teaches the limitation of claim as discuss **but fail to teach** a plurality of ground-base base station means for communication with at least one of said plurality of wireless subscriber devices via said aggregate data stream; and handoff management means, response to initiation of a call handoff from a first one of said ground-base base station means to a second one of said ground-base base station means, for redirecting transmission of said aggregate data stream from said first ground-base base station means to said second ground-base base station means.

In an analogous art, Hogg et al. teaches, "Call handoff". Further, Hogg teaches a plurality of ground-base base station means for communication with at least one of said plurality of wireless subscriber devices via said aggregate data stream (Abstract, Fig.2, No.36, Illustrate as plurality of ground-base base station); and handoff management means, response to initiation of a call handoff from a first one of said ground-base base station means to a second one of said ground-base base station means, for redirecting transmission of said aggregate data stream from said first ground-base base station means to said second ground-base base station means (C3, L26-55, C5, L26-56, Fig.2, Illustrate handoff from one ground base station to other ground base station).

Therefore, it would have been obvious at the time that the invention was made that person having ordinary skill in the art to modify Rousseu and Hogg system, such that handoff management said handoff from a first one of said ground-base base station means to a second one of said ground-base base station, to provide means uninterrupted communication during flying from one area to another area.

Consider **claims 54, 78**, Hogg teaches the system for providing wireless communication service of claim 49 further comprising: call management data handoff means for forwarding said call data, relating to said wireless subscriber devices that are generating said subscriber traffic and signaling channels, to said second ground-base station base station means (C5, C6, L27-59).

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

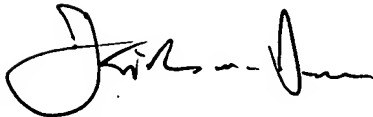
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kiet Doan whose telephone number is 571-272-7863. The examiner can normally be reached on 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on 571-272-7872. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kiet Doan  
Patent Examiner



WILLIAM TROST  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600